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(54) ELECTROSTATIC CHARGE IMAGE DEVELOPING TONER, ITS PRODUCTION AND IMAGE FORMING METHOD

(57)Abstract:
PROBLEM TO BE SOLVED: To form a stable image over a long period of time in various environments such as environments at high temperature and high humidity and at low temperature and low humidity by allowing a toner having a specified shape to exist selectively.
SOLUTION: The electrostatic charge image developing toner consists essentially of a resin and a colorant and includes 1-50 number % toner having 3-9 μm volume average particle diameter and a major axis size to minor axis size ratio (X/Y) of 1.2-3.0. This toner has an amorphous shape close to a elliptical shape, hardly under goes a shape change due to stress even after long-term use and maintains cleanability over a long period of time. The toner is formed by gradually increasing the molecular weight of oil droplets present in an aqueous medium in a suspended state by the progress of polymerization until they become soft particles and promoting the uniting of the particles by the collision of the particles to form the toner having thin particles in the shape.

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* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

CLAIMS

[Claim(s)]
[Claim 1] The toner for electrostatic-charge image development with which the toner whose ratios (X/Y) of the major axis (X) of this toner and a minor axis (Y) the volume mean particle diameter of this toner is 3-9 micrometers, and are 1.2-3.0 is characterized by 1-50-piece being several % in the toner for electrostatic-charge image development which consists of resin and a coloring agent at least.
[Claim 2] The toner for electrostatic-charge image development characterized by the arithmetic mean value of the shape factor a toner is indicated to be by the following formula being 1.3 or more in a toner according to claim 1.
Shape factor = (an overall diameter/2) (2xpi) /projected area [claim 3] The toner for electrostatic-charge image development characterized by a toner being a toner which makes a resin particle come to meet in a drainage system medium at least in a toner according to claim 1.

[Claim 4] The toner for electrostatic-charge image development characterized by being the toner with which a toner carries out the polymerization of the polymerization nature monomer in a drainage system medium at least, and is obtained in a toner according to claim 1.
[Claim 5] The image formation approach that the toner whose ratios (X/Y) of the major axis (X) of this toner and a minor axis (Y) are 1.2-3.0 is characterized by 1-50-piece being several % by this developer in the image formation approach of contacting the electrostatic latent image formed on the photo conductor in the developer layer formed on the developer conveyance member, and developing it, with the toner for electrostatic-charge image development whose volume mean particle diameter is 3-9 micrometers.
[Claim 6] In the image formation approach of making the electrostatic latent image formed on the photo conductor countering the developer layer formed on the developer conveyance member in the state of non-contact, making only the toner for electrostatic-charge image development flying, and developing The image formation approach that the toner whose ratios (X/Y) of the major axis (X) of this toner and a minor axis (Y) are 1.2-3.0 is characterized by 1-50-piece being several % by this developer with the toner for electrostatic-charge image development whose volume mean particle diameter is 3-9 micrometers.
[Claim 7] In the image formation approach which cleans the toner which imprinted on the image base material and remained to the photo conductor after making the electrostatic latent image formed on the photo conductor develop with the developer containing a toner The image formation approach that the toner whose ratios (X/Y) of the major axis (X) of this toner and a minor axis (Y) are 1.2-3.0 is characterized by 1-50-piece being several % by this developer with the toner for electrostatic-charge image development whose volume mean particle diameter is 3-9 micrometers.
[Claim 8] The image formation approach characterized by the arithmetic mean value of the shape factor a toner is indicated to be by the following formula being 1.3 or more in the image formation approach of claim 5-7 given in any 1 term.
Shape factor = (an overall diameter/2) (2xpi) /projected area [claim 9] The image formation approach characterized by a toner being a toner which makes a resin particle come to meet in a

drainage system medium at least in the image formation approach of claim 5–7 given in any 1 term.

[Claim 10] The image formation approach characterized by being the toner with which a toner carries out the polymerization of the polymerization nature monomer in a drainage system medium at least, and is obtained in the image formation approach of claim 5–7 given in any 1 term.

[Claim 11] The manufacture approach of the toner for electrostatic–charge image development that the toner whose ratios (X/Y) of the major axis (X) of this toner and a minor axis (Y) the volume mean particle diameter of this toner is 3–9 micrometers, and are 1.2–3.0 is characterized by 1–50–piece being several % in the manufacture approach of the toner for electrostatic–charge image development of making a resin particle coming to meet in a drainage system medium at least.

[Claim 12] The manufacture approach of the toner for electrostatic–charge image development that the toner whose ratios (X/Y) of the major axis (X) of this toner and a minor axis (Y) the volume mean particle diameter of this toner is 3–9 micrometers, and are 1.2–3.0 is characterized by 1–50–piece being several % in the manufacture approach of the toner for electrostatic–charge image development which carries out the polymerization of the polymerization nature monomer in a drainage system medium at least, and is obtained.

[Translation done.]